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Wolf et al.

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(54) **AUDIO HEADSET ACCOMMODATING EAR GEOMETRY VARIATIONS**

(71) Applicant: **Microsoft Corporation**, Redmond, WA (US)

(72) Inventors: **Monika Wolf**, Seattle, WA (US); **Austin Porter**, Seattle, WA (US); **Eric J. Wahl**, Kirkland, WA (US); **Aditha May Adams**, Seattle, WA (US); **Patrick Gaule**, Bothell, WA (US)

(73) Assignee: **Microsoft Technology Licensing, LLC**, Redmond, WA (US)

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(22) Filed: **May 19, 2014**

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Related U.S. Application Data

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(51) **Int. Cl.**
H04R 1/10 (2006.01)

(52) **U.S. Cl.**
CPC ***H04R 1/1041*** (2013.01); ***H04R 1/10*** (2013.01)

(58) **Field of Classification Search**
CPC H04R 1/10; H04R 1/1041; H04R 1/083; H04R 1/1066; H04M 1/02; H04M 1/03
See application file for complete search history.

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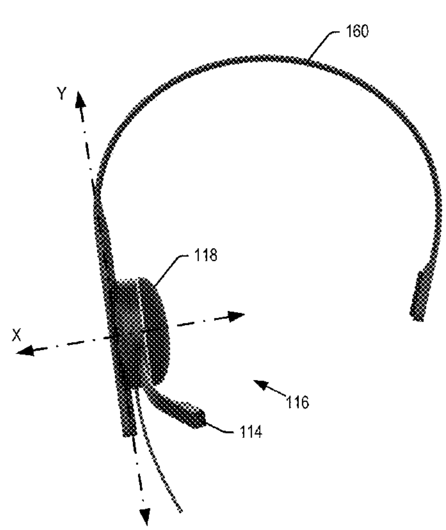
Primary Examiner — Thang Tran
(74) *Attorney, Agent, or Firm* — Vierra Magen Marcus LLP

(57) **ABSTRACT**

An audio headset is disclosed. In examples, the audio headset is linearly and rotationally adjustable about multiple axes to ensure optimal fit over a user's ear and optimal audio quality. The audio headset further includes a microphone for accepting audio from the user. The microphone is also rotationally adjustable about multiple axes to ensure optimal positioning and comfort for the user.

20 Claims, 24 Drawing Sheets



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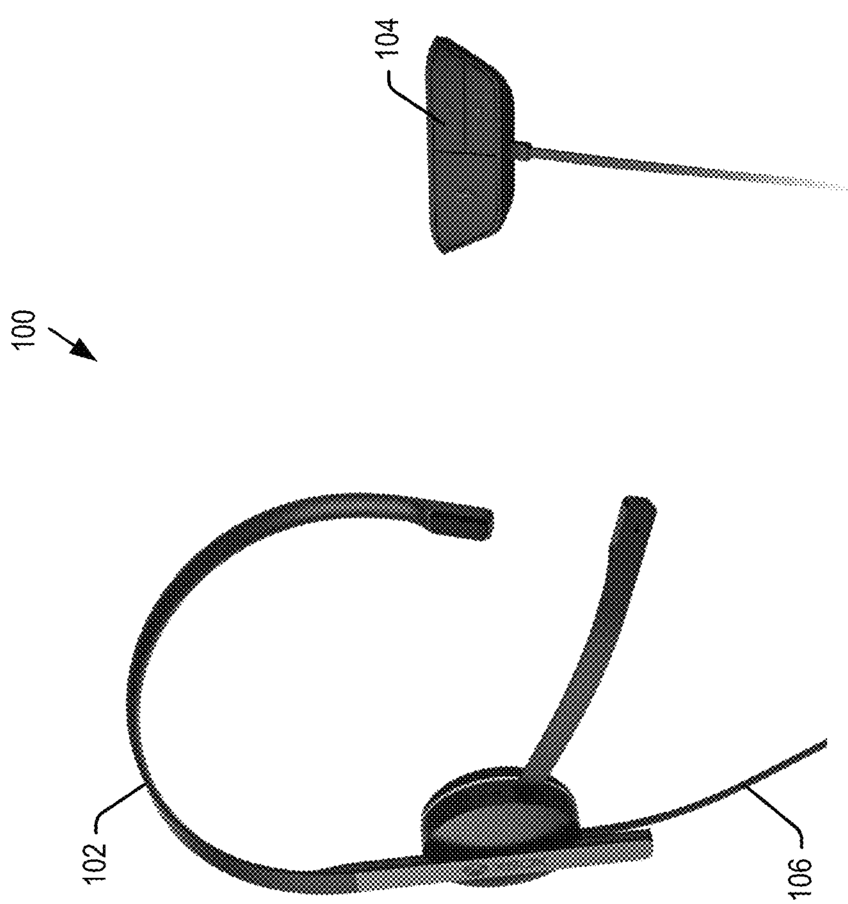


FIG. 1

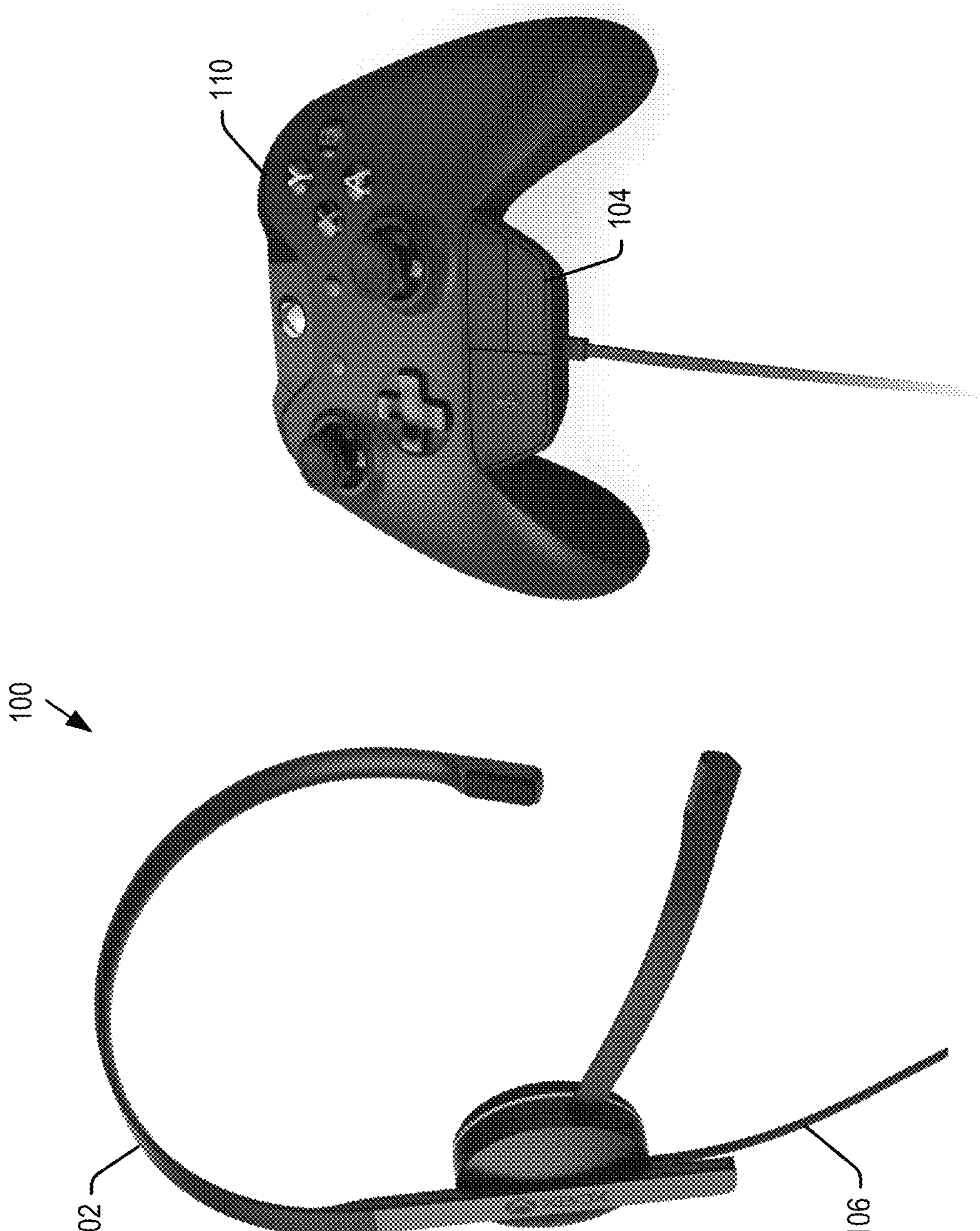


FIG. 2

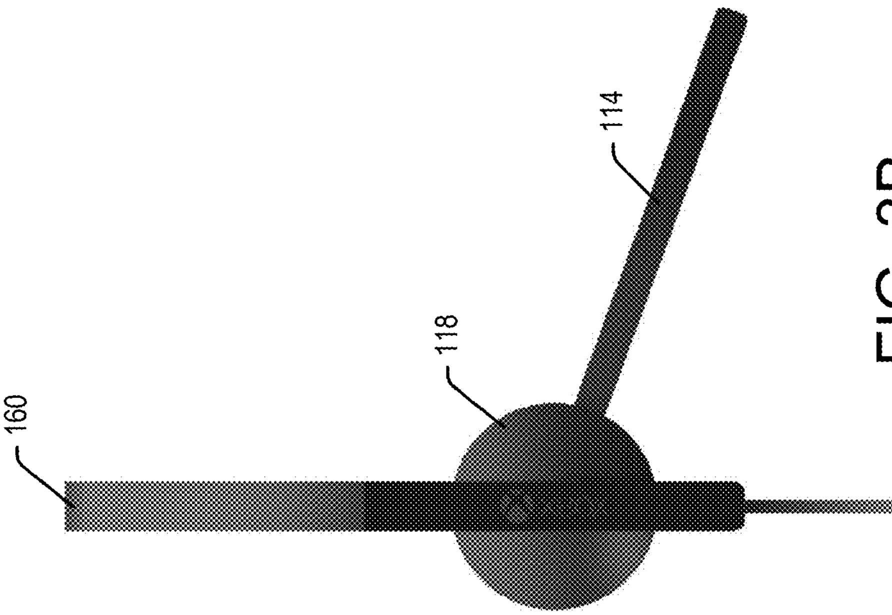


FIG. 3B

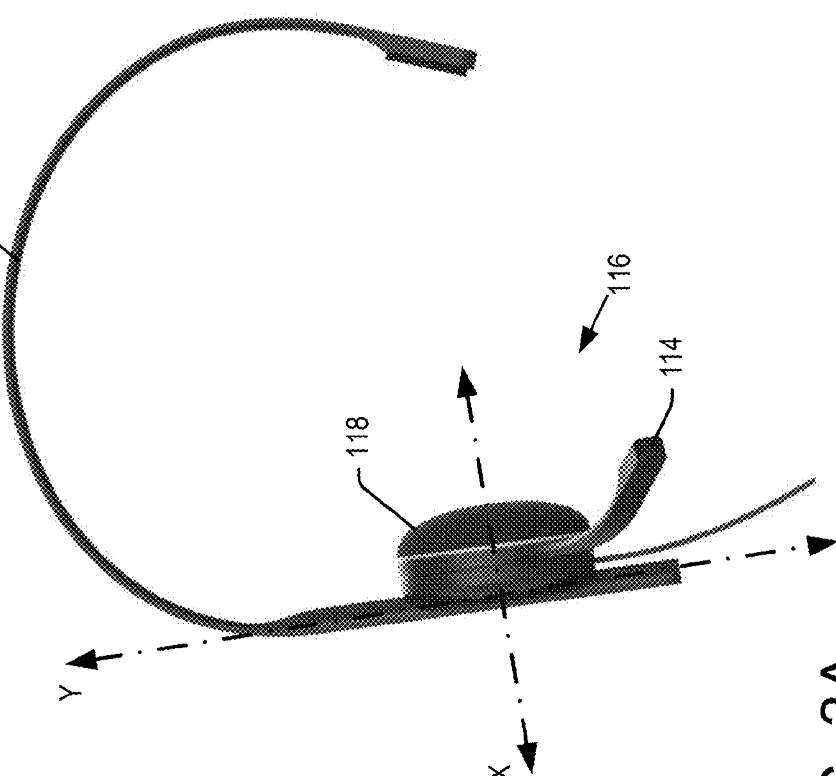


FIG. 3A

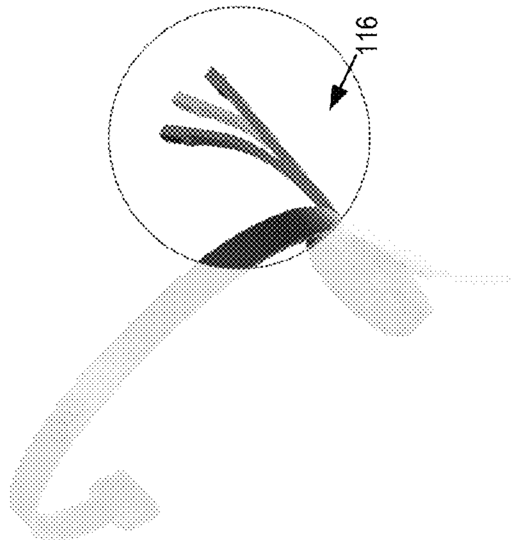


FIG. 4C

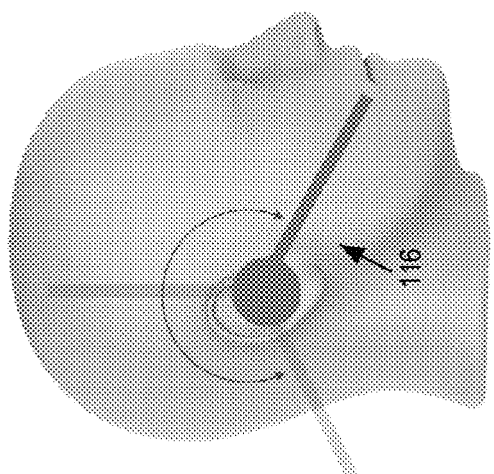


FIG. 4B

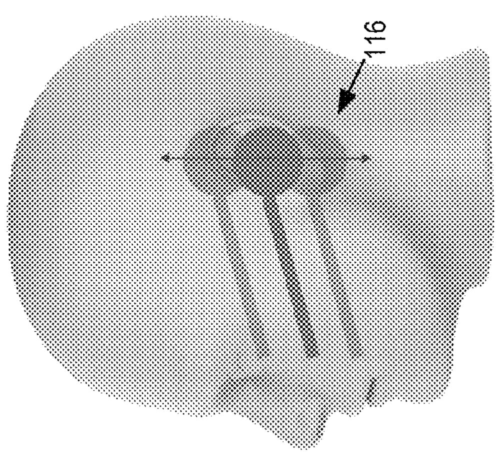


FIG. 4A

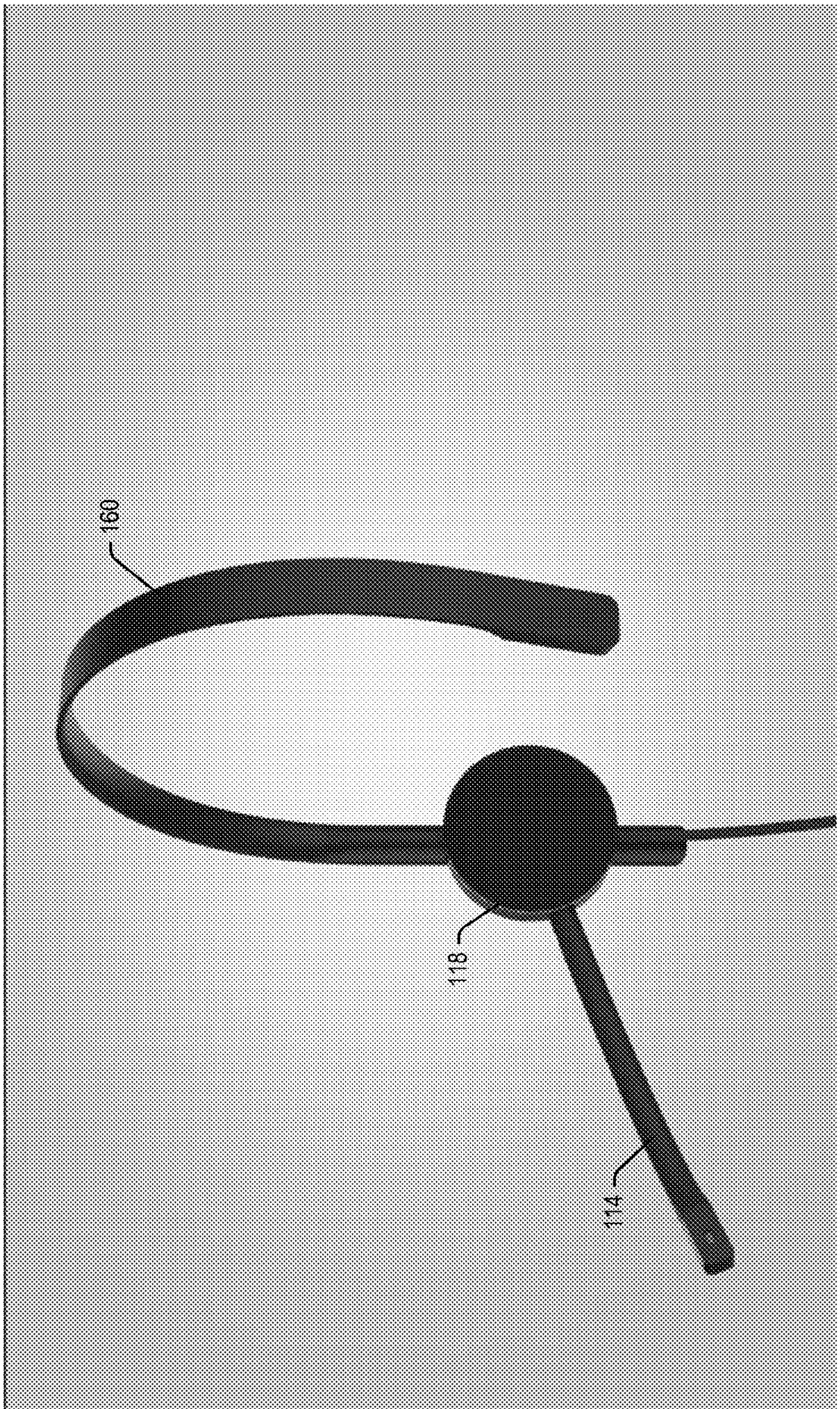


FIG. 5

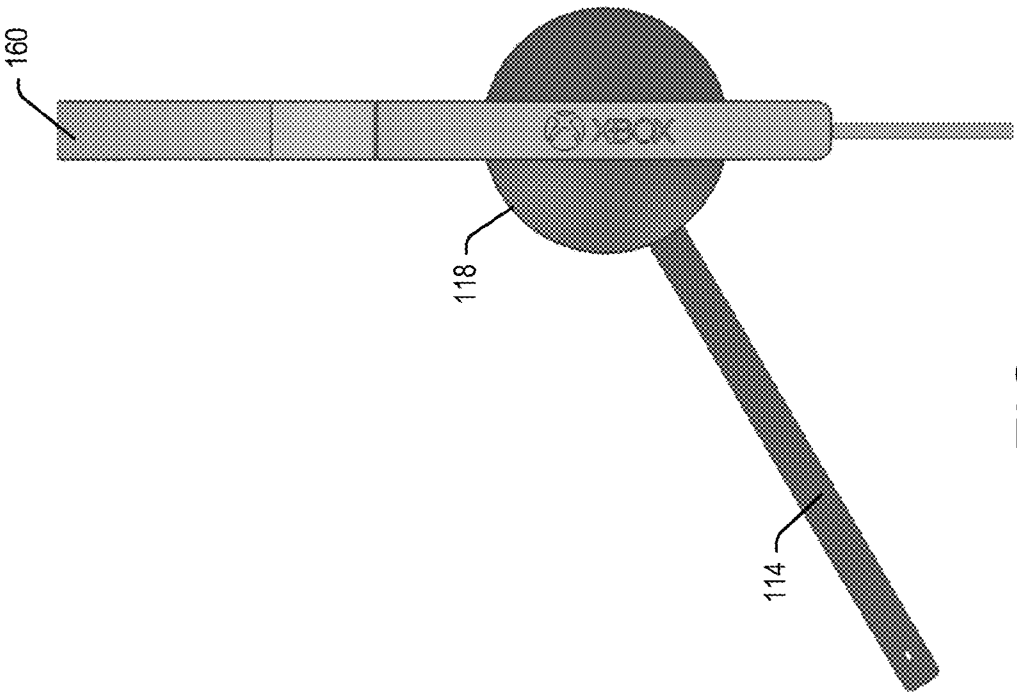


FIG. 7

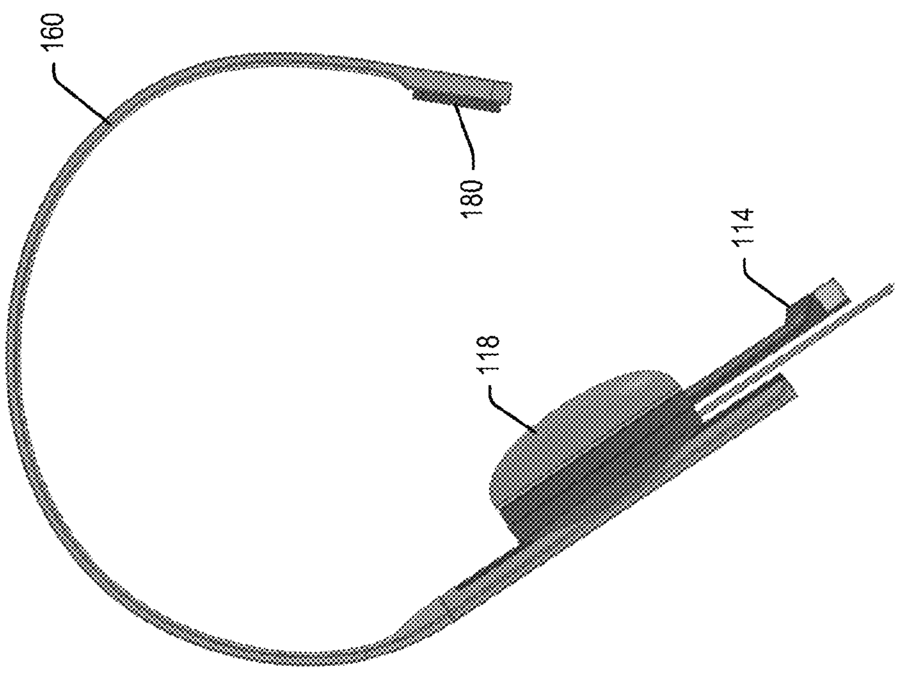


FIG. 6

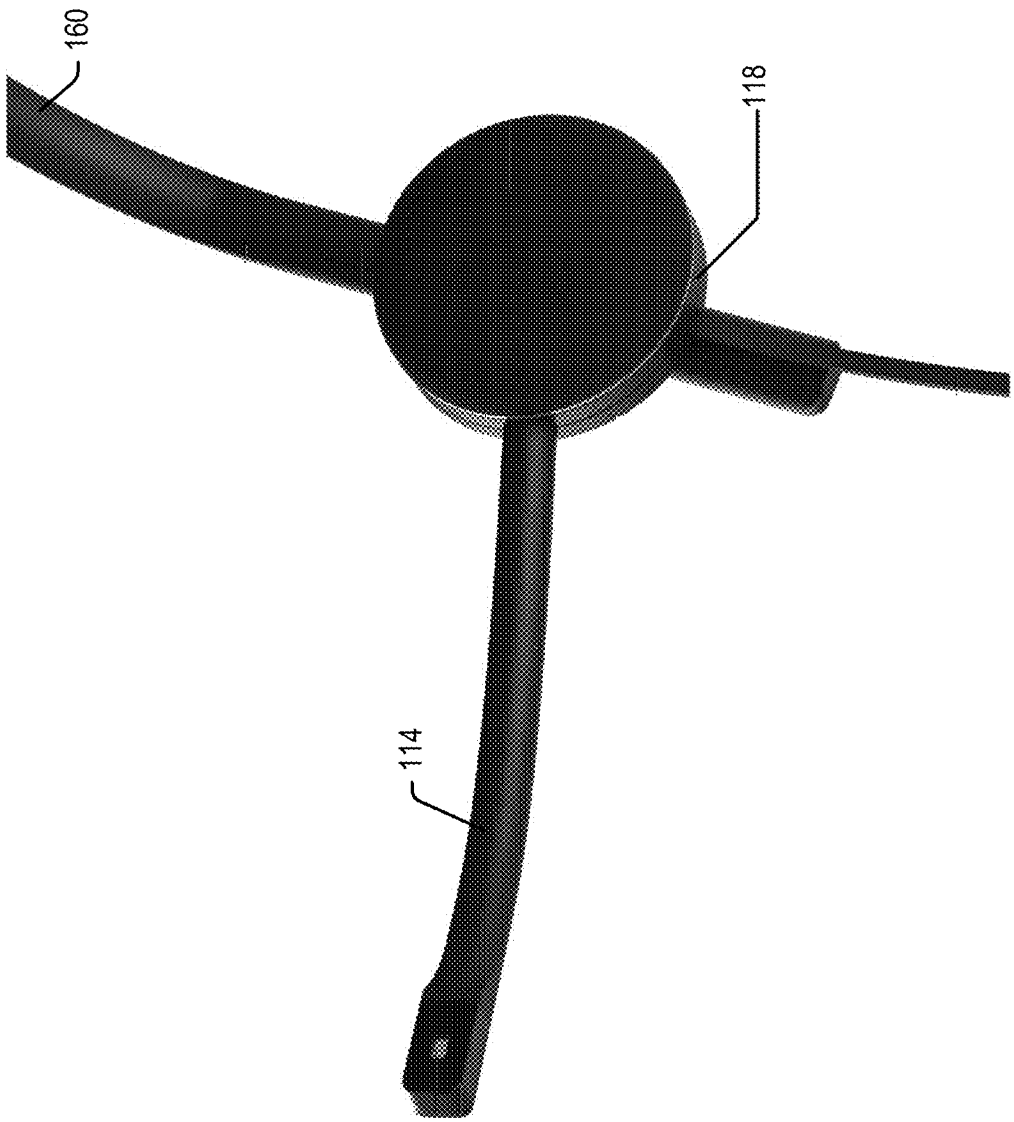


FIG. 8

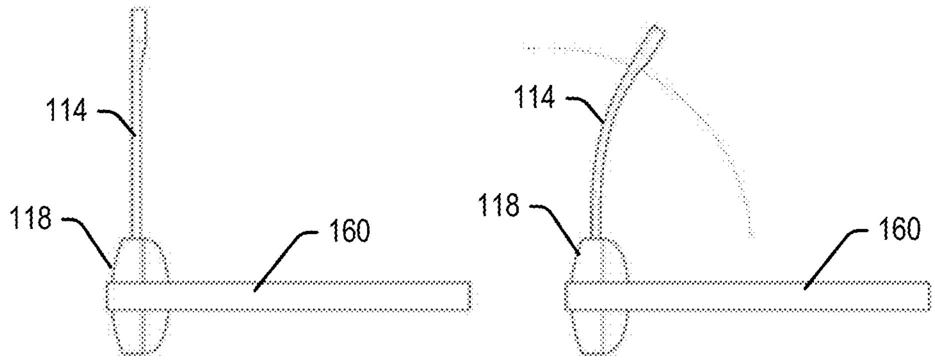


FIG. 9A

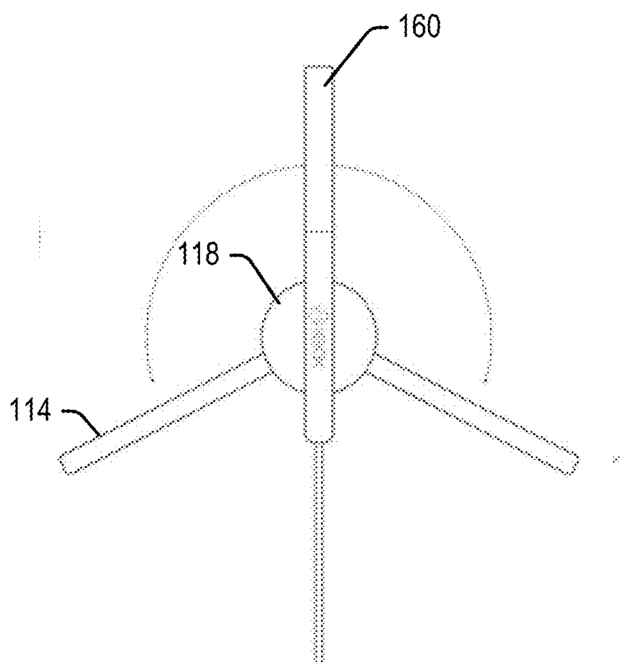


FIG. 9B

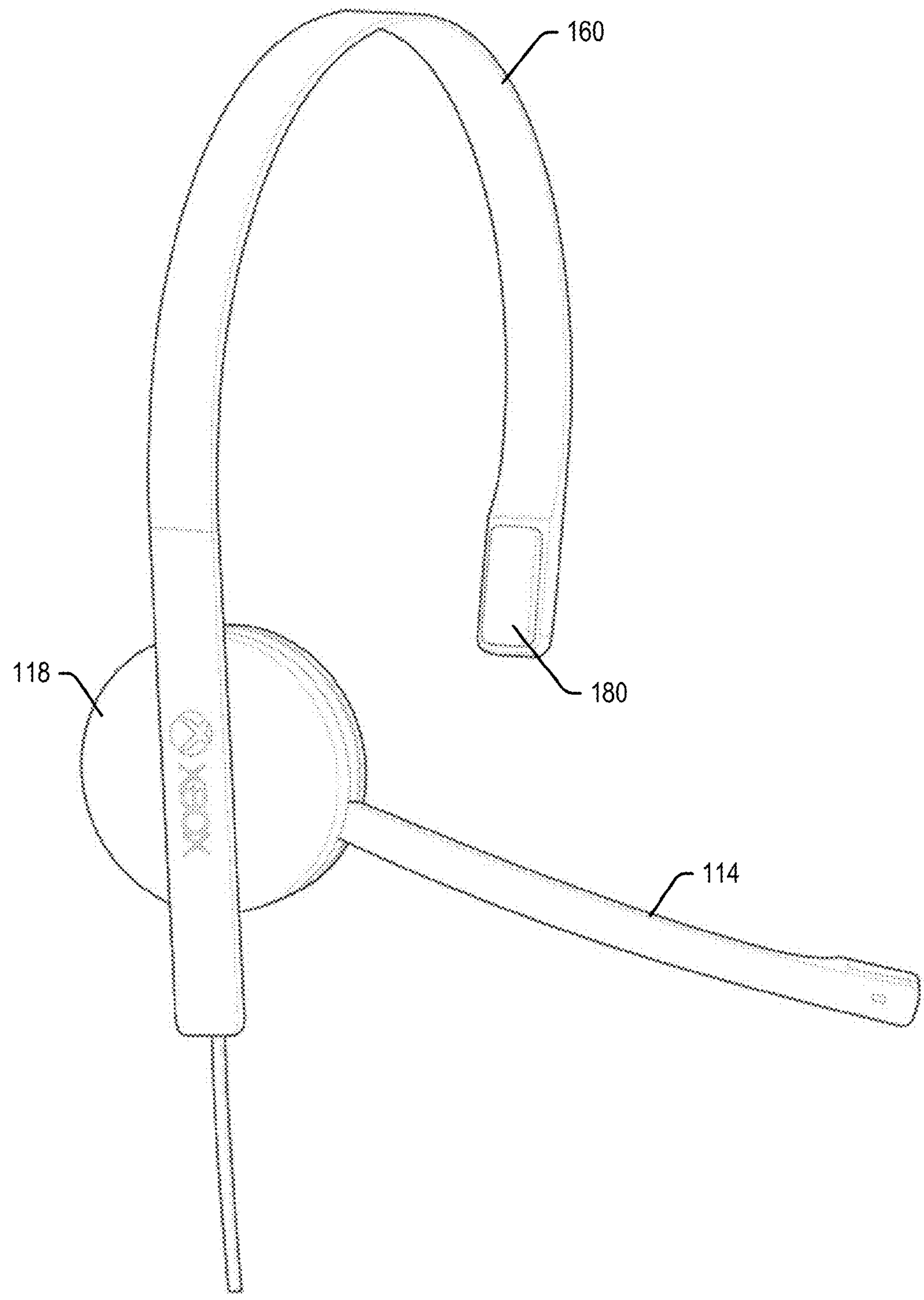


FIG. 10

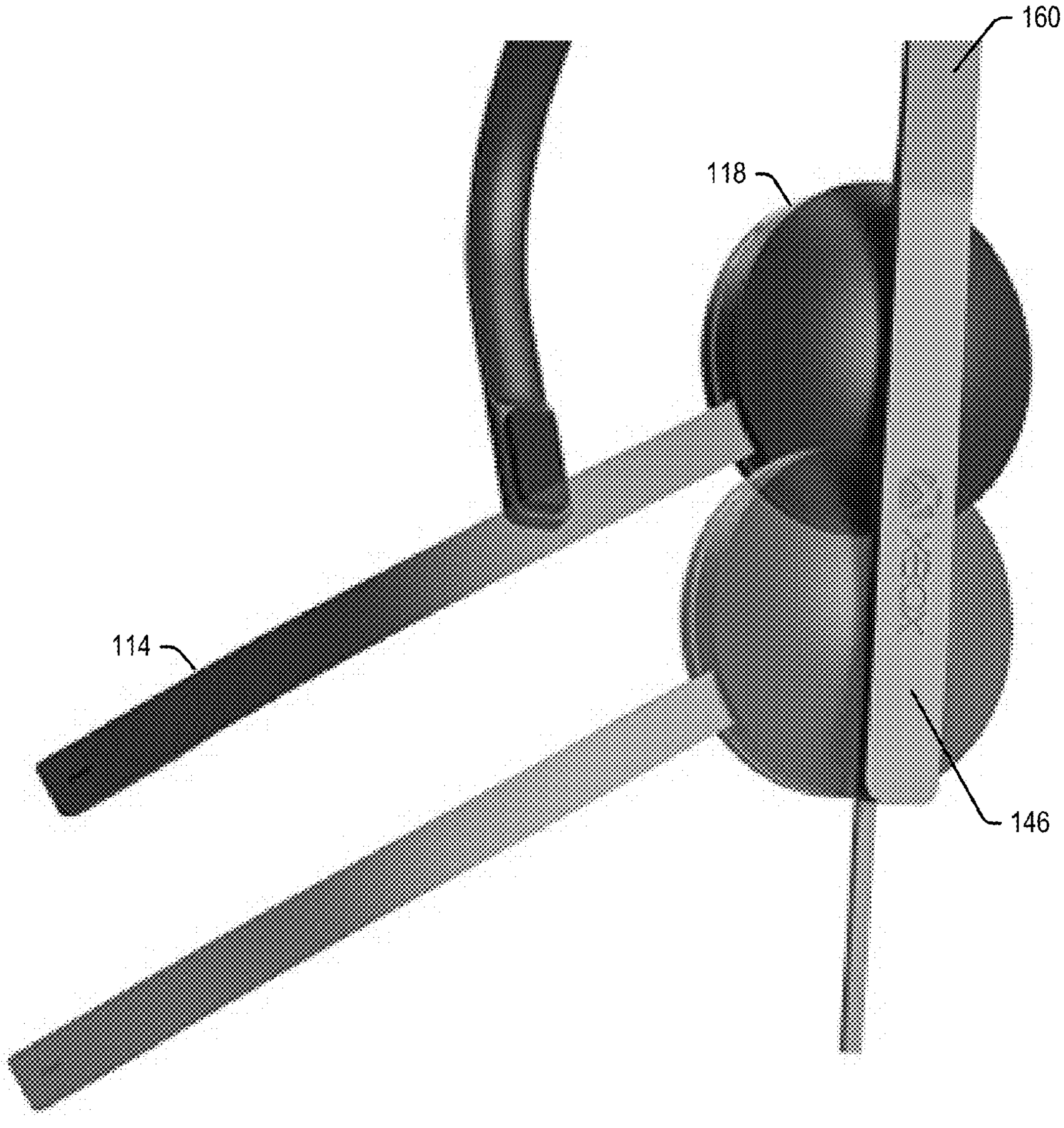


FIG. 11

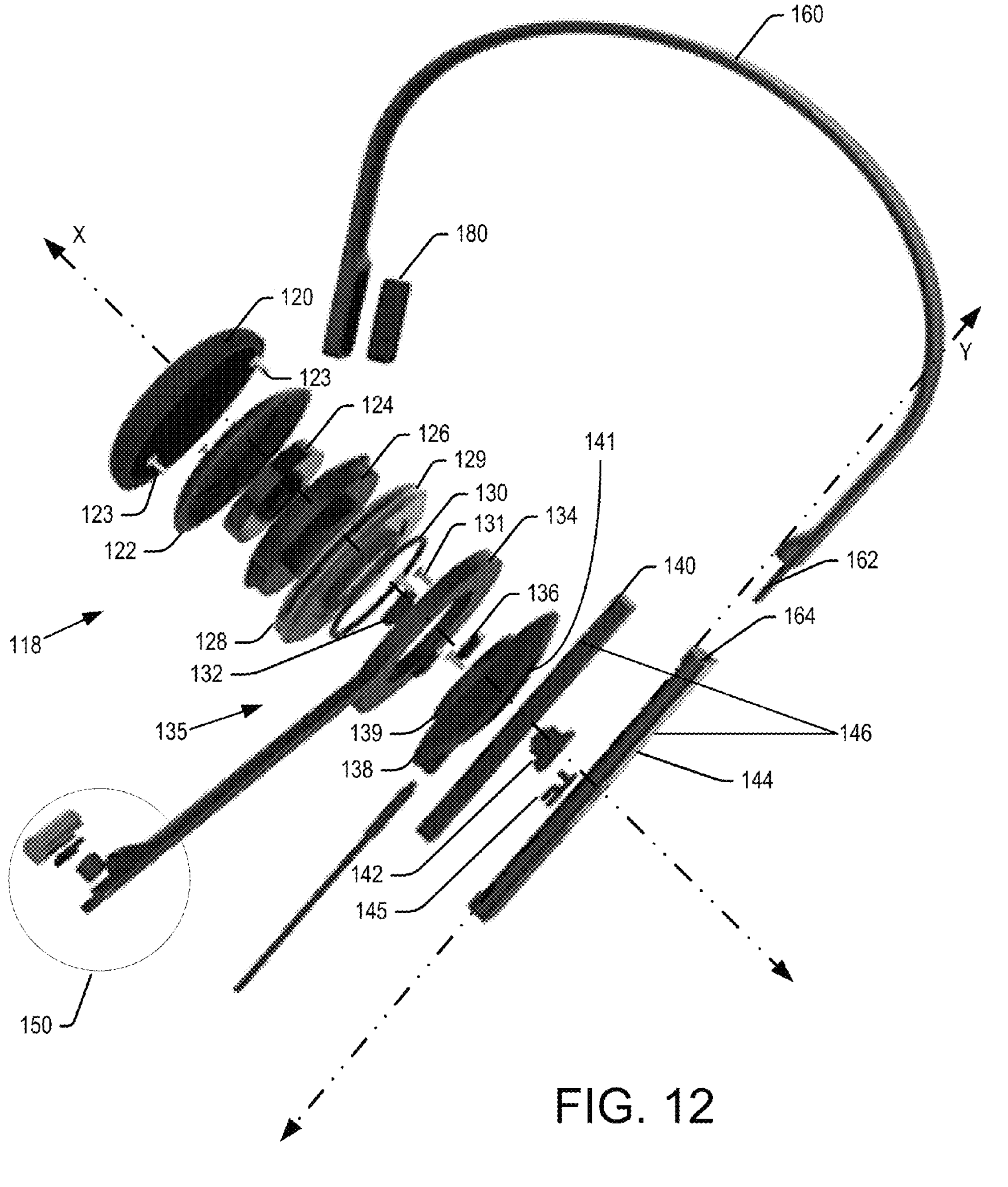
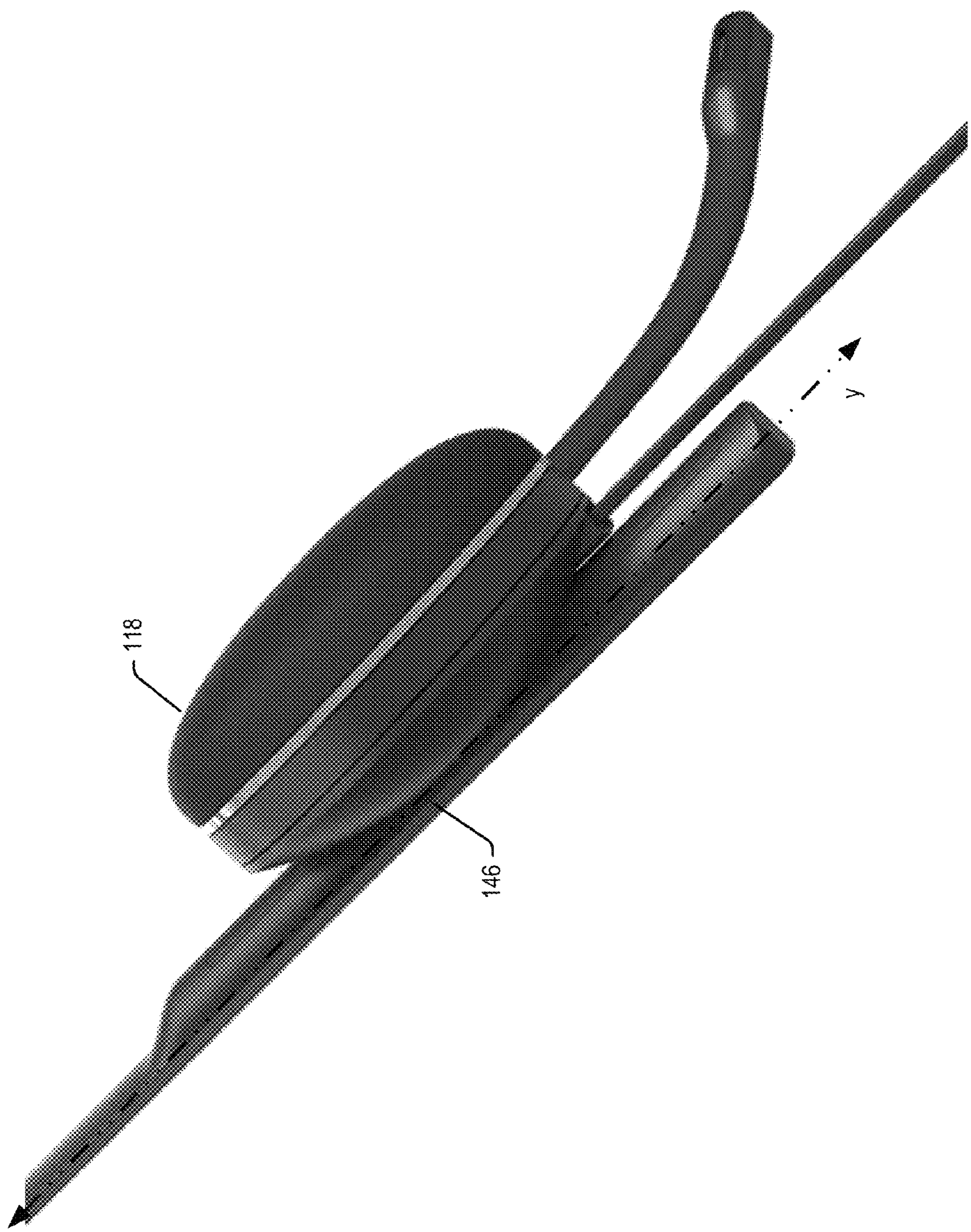

160
180
X
Y
120
123
123
124
126
129
130
131
134
141
122
128
132
136
140
162
164
118
135
139
138
146
144
142
145
150

FIG. 12

FIG. 13



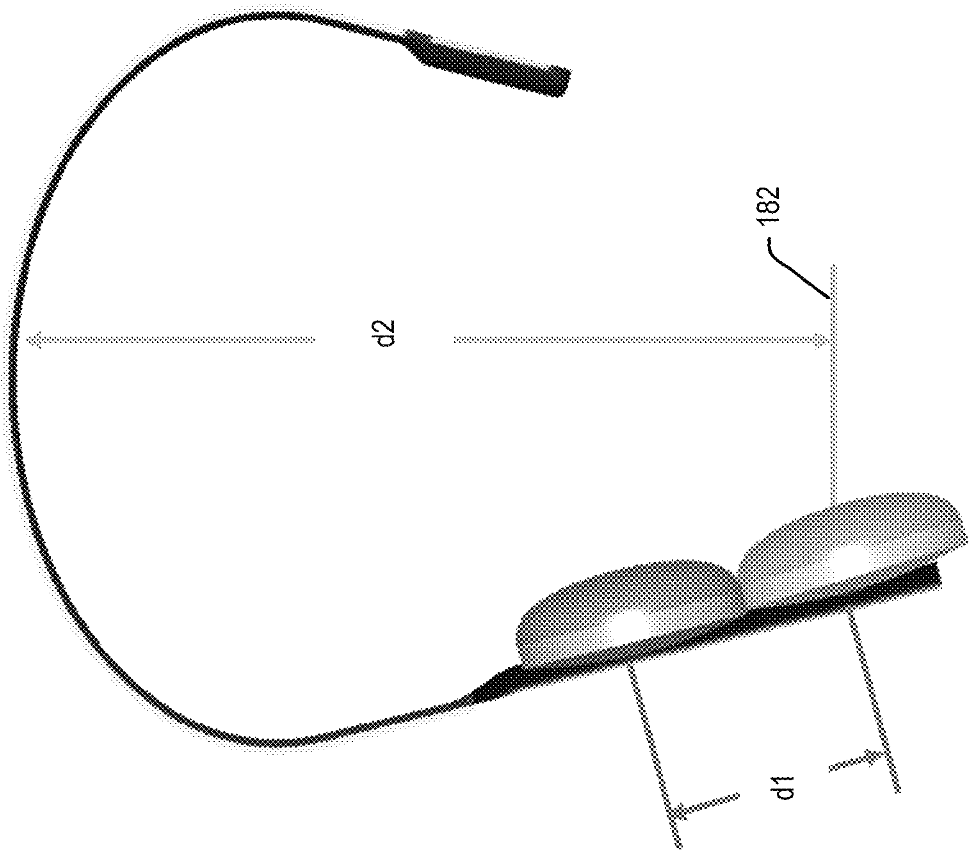


FIG. 14

FIG. 15

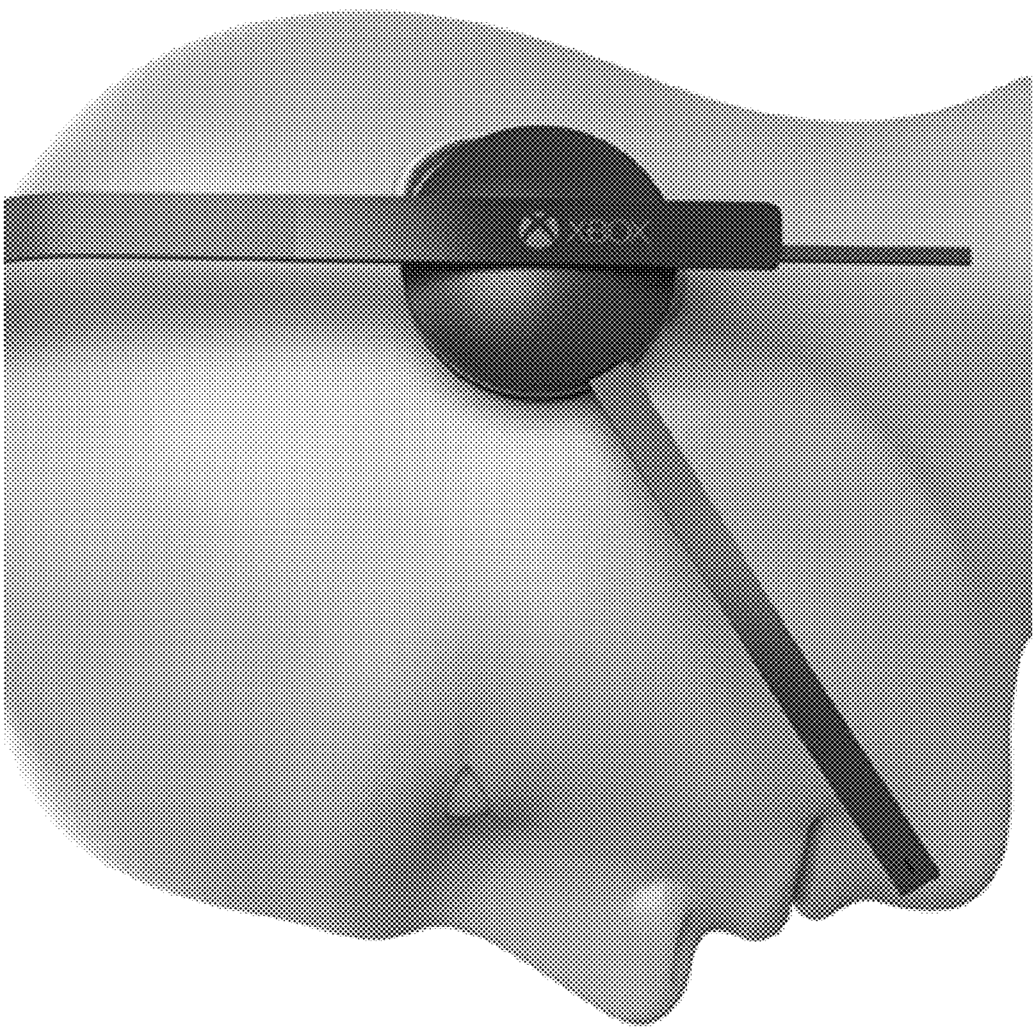


FIG. 16

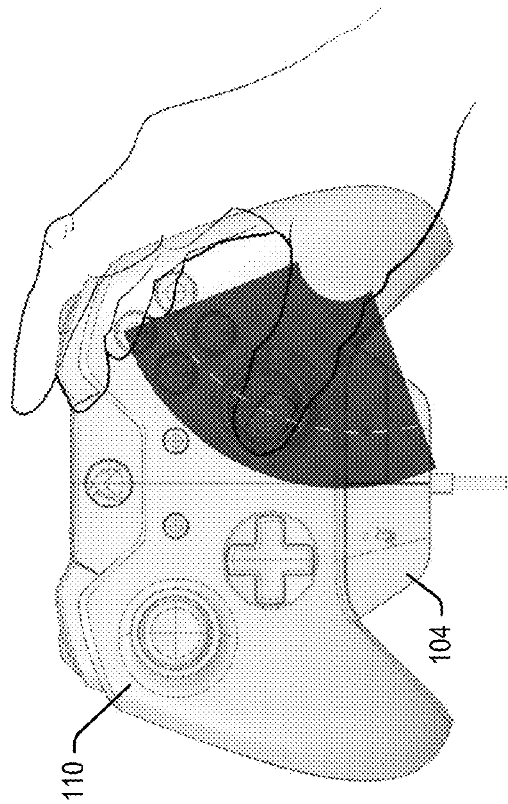


FIG. 18

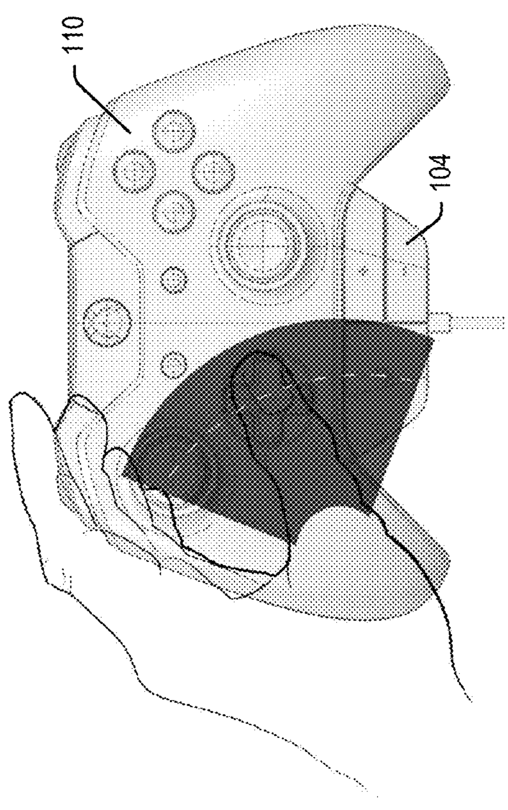


FIG. 17

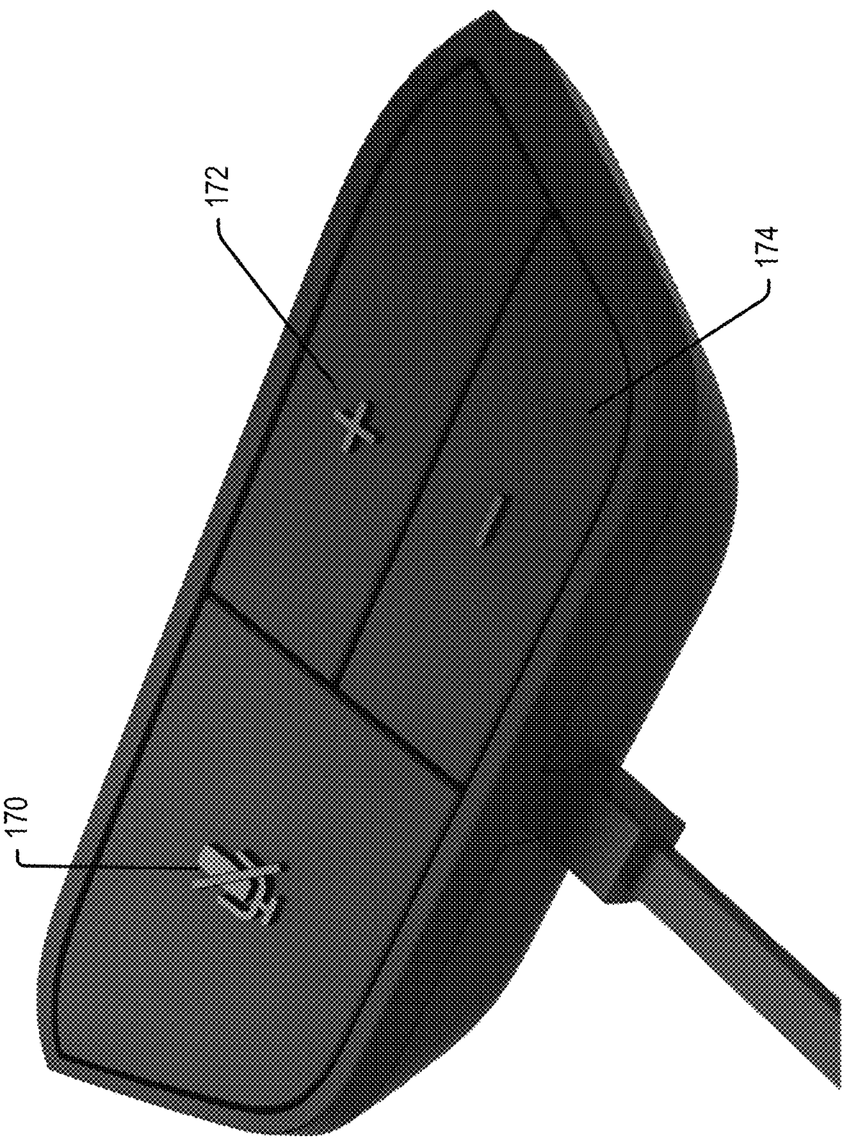


FIG. 19

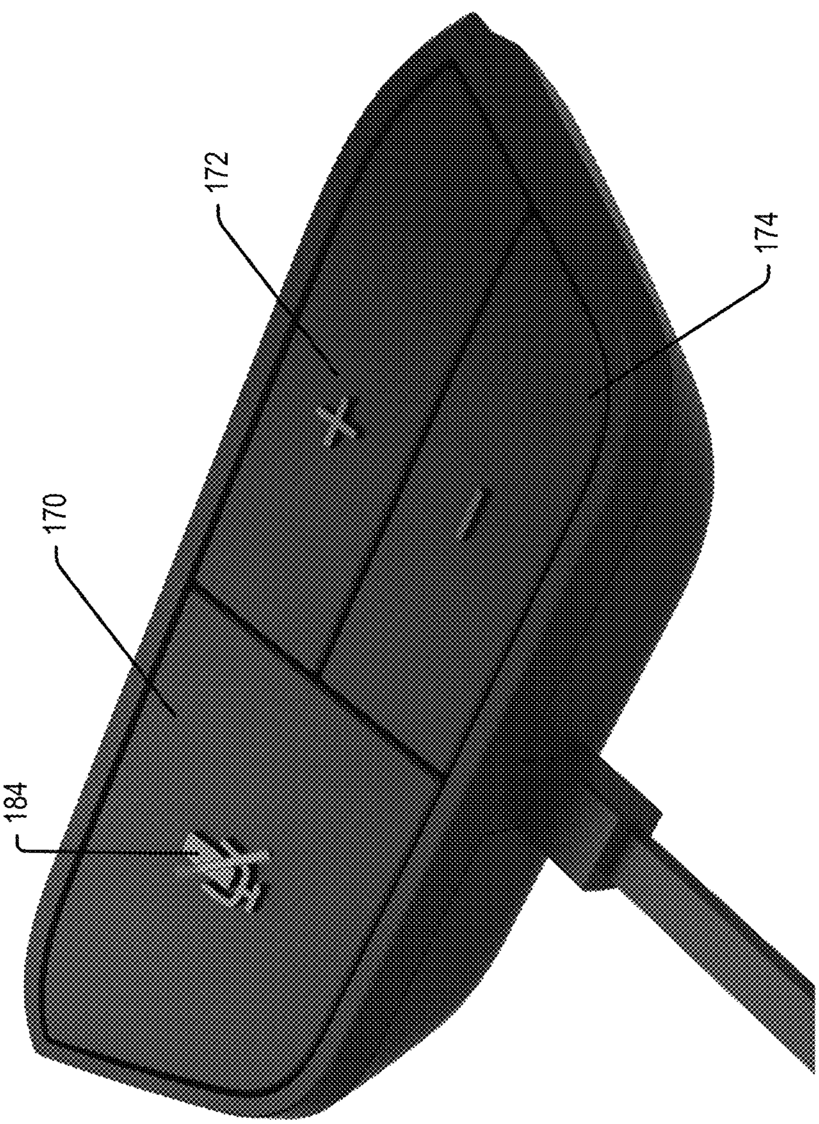


FIG. 20

FIG. 21

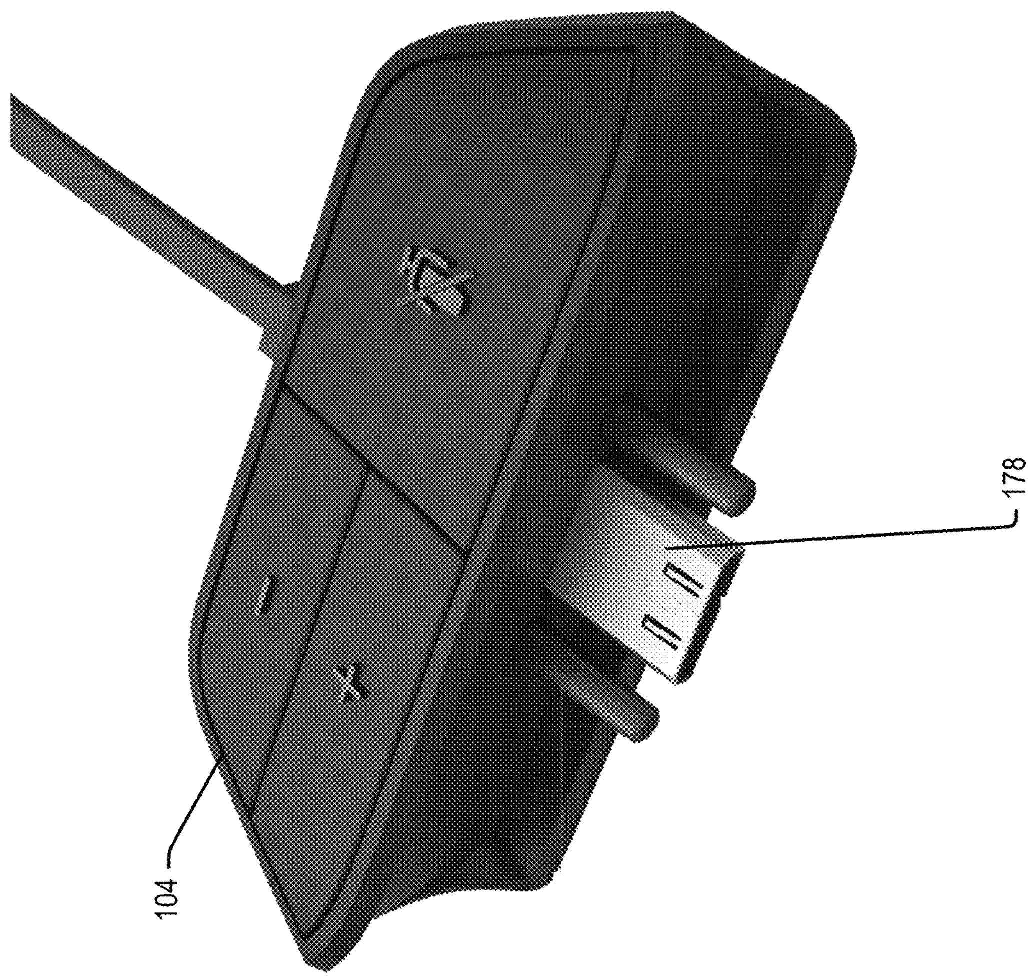


FIG. 22

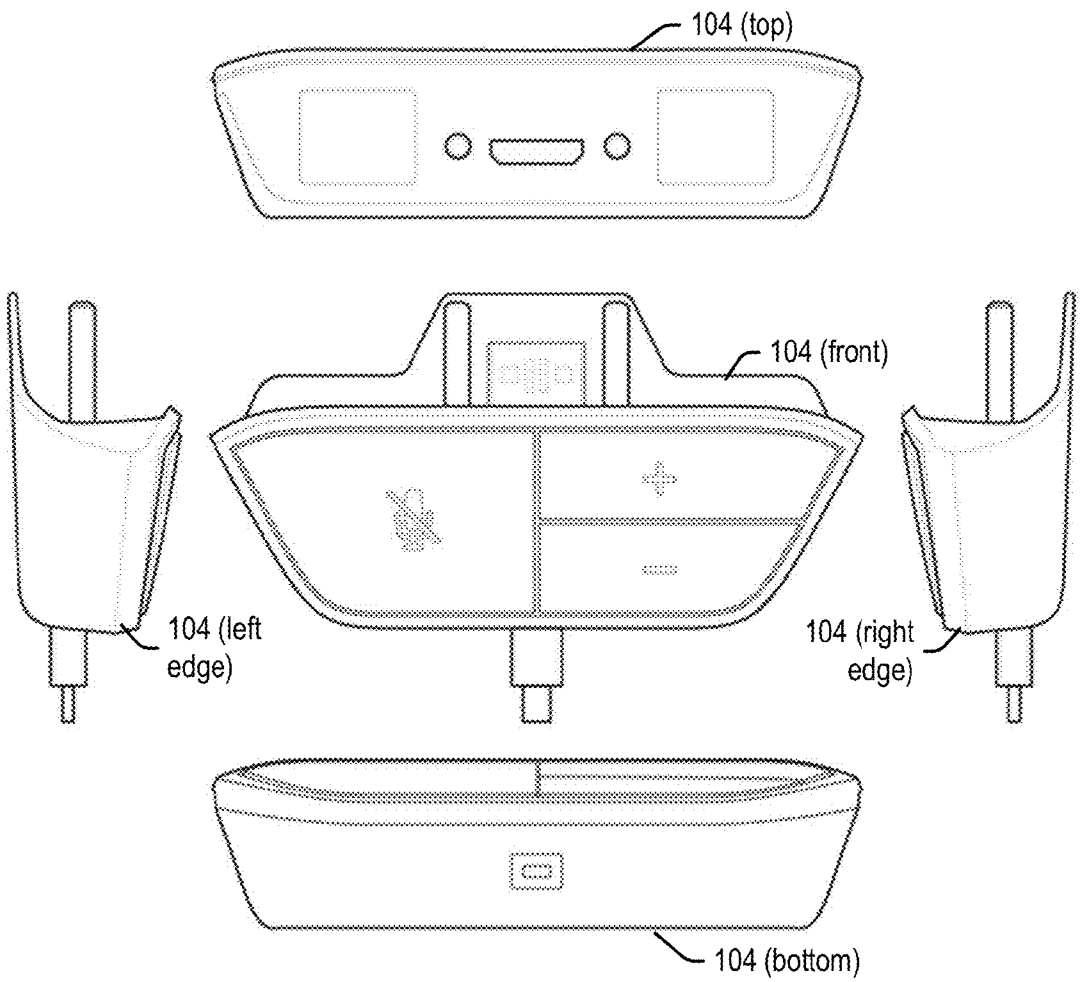


FIG. 23

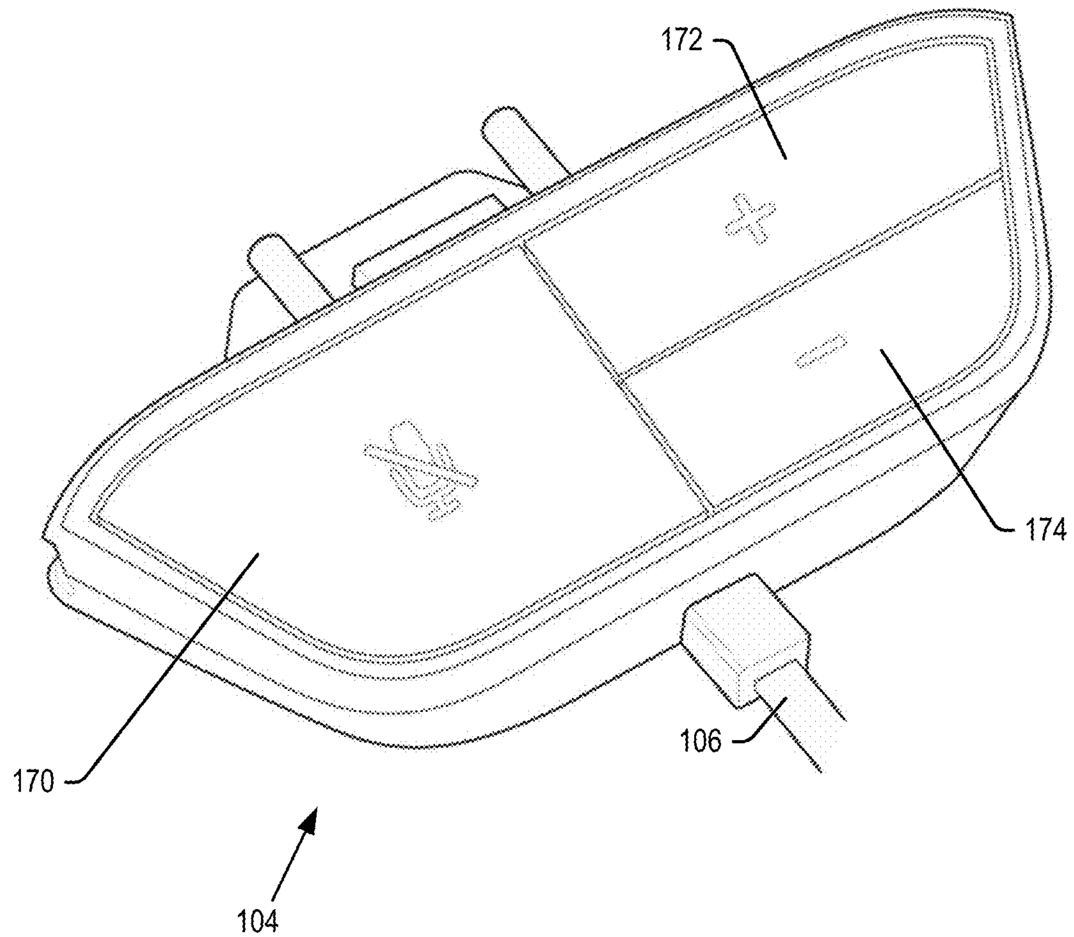


FIG. 24

FIG. 25

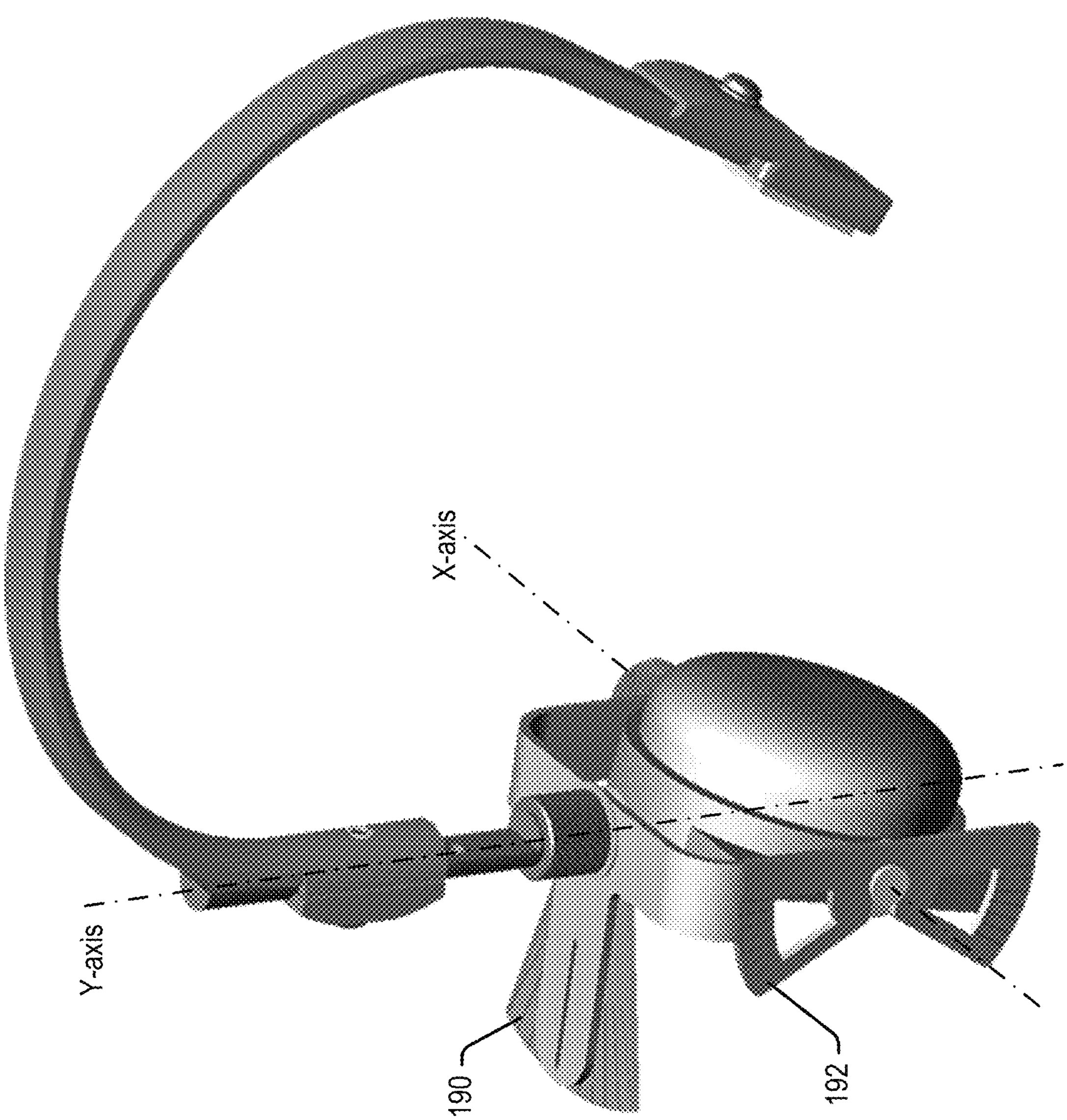
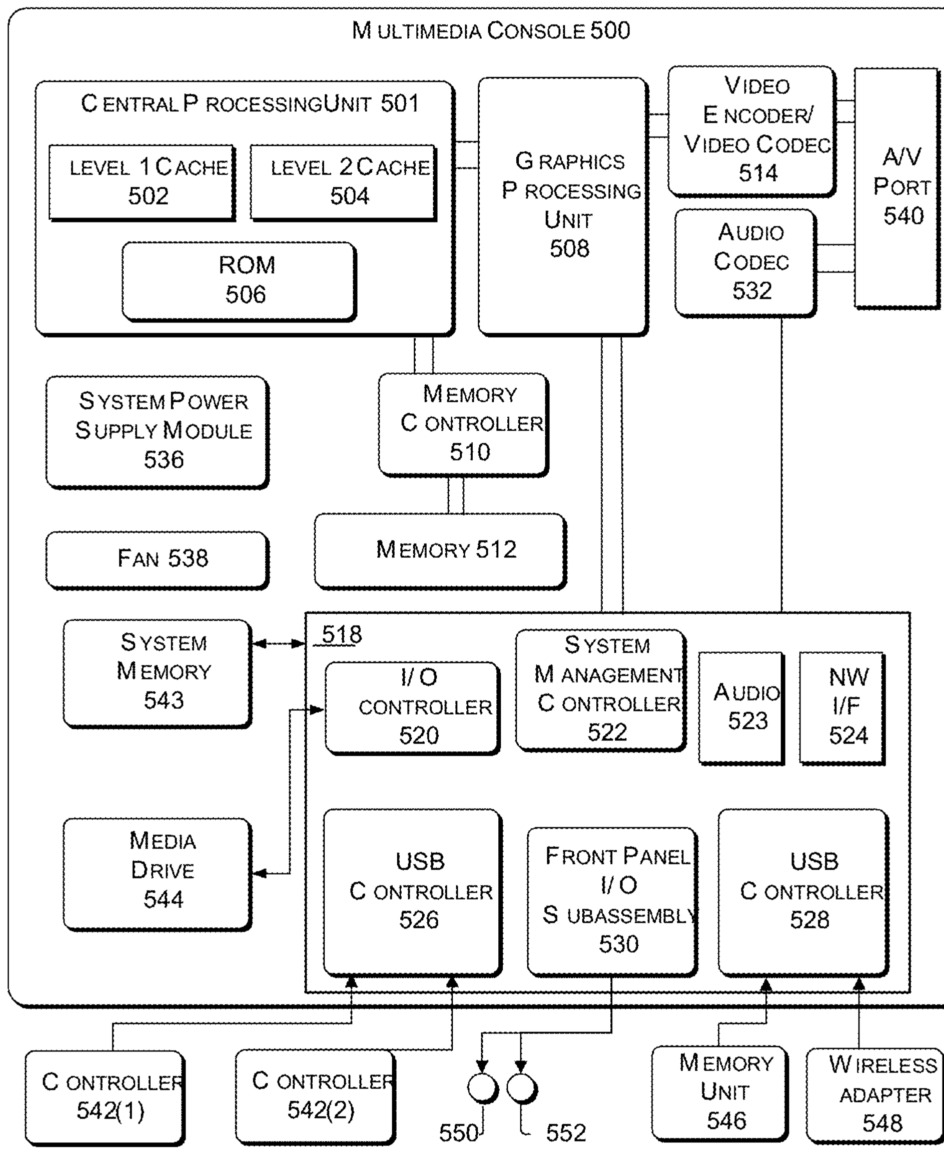


Fig. 26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CENTRAL PROCESSING UNIT 501
LEVEL 1 CACHE 502
LEVEL 2 CACHE 504
ROM 506
GRAPHICS PROCESSING UNIT 508
VIDEO ENCODER/ VIDEO CODEC 514
AUDIO CODEC 532
A/V PORT 540
SYSTEM POWER SUPPLY MODULE 536
MEMORY CONTROLLER 510
FAN 538
MEMORY 512
SYSTEM MEMORY 543
518
I/O CONTROLLER 520
SYSTEM MANAGEMENT CONTROLLER 522
AUDIO 523
NW I/F 524
MEDIA DRIVE 544
USB CONTROLLER 526
FRONT PANEL I/O SUBASSEMBLY 530
USB CONTROLLER 528
CONTROLLER 542(1)
CONTROLLER 542(2)
550
552
MEMORY UNIT 546
WIRELESS ADAPTER 548

AUDIO HEADSET ACCOMMODATING EAR GEOMETRY VARIATIONS

PRIORITY CLAIM

This application claims priority to U.S. Provisional Patent Application No. 61/832,681, filed Jun. 7, 2013, entitled, "System and Method for Accommodating Ear Geometry Variation in an Audio Headset," which is incorporated herein by reference in its entirety.

BACKGROUND

Gaming audio headsets are deemed functionally successful when high quality audio is comfortably delivered to the ears for long periods of time. High quality audio benefits from a separation of game audio from the surrounding ambient audio environment. Ear cup orientation is typically fixed, or occurs along a single axis, and padding is typically used to seal the ambient sounds external to the ear.

When the seal is incomplete, both the game audio and the long term comfort are compromised, because ambient sound is let into the ear cup chamber and points of friction and pressure develop where the ear cups contact the flesh of the ear (pinna). Comfort and audio performance can be greatly improved by increasing the flexibility of the contact surface between the ear and the headset cups. The great variety of planar relationships in consumer ear anatomy has made the problem of good fitting ear cups worse outside of custom solutions.

SUMMARY

Embodiments of the present technology relate to an audio headset. In examples, the audio headset is linearly and rotationally adjustable about multiple axes to ensure optimal fit over a user's ear and optimal audio quality. The audio headset further includes a microphone for accepting speech from the user. The microphone is also rotationally adjustable about multiple axes to ensure optimal positioning and comfort for the user.

In one example, the present technology relates to an audio headset, comprising: a headband having a portion defining a first axis along a length of the portion; an ear pod affixed at the portion of the headband, the ear pod including a speaker and mounted for translation along the axis and rotation about the axis, a second axis being defined orthogonal to the first axis and substantially perpendicular to a major planar surface of the ear pod; and a microphone affixed to the headband at the ear pod, wherein the microphone is mounted for rotation about the second axis.

In a further example, the present technology relates to an audio headset, comprising: a headband having a portion defining a first axis along a length of the portion; a housing affixed at the portion of the headband, the housing having a cover with an elongate slot formed along the first axis; a slide mounted within the housing; a slide base affixed to the slide; an ear pod including a speaker, the ear pod affixed to the slide base, the slide, slide base and ear pod capable of translating together along the first axis along the length of the slot, and the slide, slide base and ear pod capable of rotating together around the first axis within the slot, a second axis being defined orthogonal to the first axis and substantially perpendicular to a major planar surface of the ear pod; and a microphone affixed to the ear pod, wherein the microphone is mounted for rotation relative to the ear pod about the second axis.

In another example, the present technology relates to an audio headset assembly, comprising: a headset, comprising: a headband having a portion defining a first axis along a length of the portion, an ear pod affixed at the portion of the headband, the ear pod including a speaker and mounted for translation along the axis and rotation about the axis, a second axis being defined orthogonal to the first axis and substantially perpendicular to a major planar surface of the ear pod, and a microphone affixed to the headband at the ear pod, wherein the microphone is mounted for rotation about the first and second axes; and a volume controller for controlling a volume to the ear pod and a mute function for muting the microphone.

DESCRIPTION OF DRAWINGS

FIG. **1** is a perspective view of a headset assembly including a headset and a volume controller.

FIG. **2** is a perspective view of a headset assembly including a headset and a volume controller affixed to a game controller.

FIGS. **3**A and **3**B are front and side views of a headset according to embodiments of the present technology.

FIG. **4**A illustrates translational adjustment of an audio assembly according to embodiments of the present technology.

FIG. **4**B illustrates rotational adjustment of an audio assembly about a first axis according to embodiments of the present technology.

FIG. **4**C illustrates adjustment of an audio assembly about a second axis in according to embodiments of the present technology.

FIG. **5** is a perspective view of a headset according to embodiments of the present technology.

FIGS. **6** and **7** are front and side views of a headset according to embodiments of the present technology.

FIG. **8** is an enlarged perspective view of a portion of the headset according to embodiments of the present technology.

FIGS. **9**A and **9**B illustrate various rotations of a microphone boom relative to a headband of the headset according to embodiments of the present technology.

FIG. **10** is a further perspective view of a headset according to embodiments of the present technology.

FIG. **11** illustrates translational adjustment of an audio assembly according to embodiments of the present technology.

FIG. **12** is an exploded perspective view of a headset according to embodiments of the present technology.

FIG. **13** is an enlarged perspective view of a portion of the headset according to embodiments of the present technology.

FIG. **14** is a front view of the head set illustrating translational adjustment of an ear pod according to embodiments of the present technology.

FIG. **15** is a side view of a headset worn by a user according to embodiments of the present technology.

FIG. **16** is a front perspective view of a volume controller according to embodiments of the present technology.

FIGS. **17** and **18** illustrate actuation of a volume controller affixed to a game controller by a user according to embodiments of the present technology.

FIGS. **19** and **20** are further perspective views of a volume controller according to embodiments of the present technology.

FIG. **21** is a perspective view of a violent controller affixed to a game controller according to embodiments of the present technology.

FIG. **22** is a rear perspective view of a volume controller according to embodiments of the present technology.

FIG. **23** shows various views of a violent controller according to embodiments of the present technology.

FIG. **24** is a further perspective view of a volume controller according to embodiments of the present technology.

FIG. **25** is a headset according to alternative embodiment of the present technology.

FIG. **26** is a block diagram depicting the components of an example entertainment console with which the headset assembly of the present technology may be used.

DETAILED DESCRIPTION

The present technology will now be described with reference to the figures which in general relate to an audio headset which is linearly and rotationally adjustable about multiple axes to ensure optimal fit over a user's ear and optimal audio quality. In one example, the headset may be used for gaming applications. However, the headset according to the present technology may also be used in other applications, including for example, helmet radio ear pieces, pilot communications, and two-way radio ear pieces.

FIG. **1** illustrates an audio headset assembly **100** including a headset **102**, a volume controller **104** and a cord **106** (partially shown) connecting the headset **102** to the volume controller **104**. Headset **102** may communicate with volume controller **104** wirelessly in further embodiments. FIG. **2** illustrates the headset assembly **100** with volume controller **104** plugged into a game controller **110**. FIGS. **3-12** illustrate additional views of the headset **102**, some of which figures include text describing additional features of the headset **102**.

FIGS. **3**A and **3**B illustrate headset **102**, and orthogonal reference axes x and y about which an ear pod **118** and microphone **114** can translate and rotate. The ear pod **118** and microphone **114** may together be described herein as audio assembly **116**. FIGS. **4**A, **4**B and **4**C illustrate the headset **102** worn by a user, and illustrate various ways the audio assembly **116** may be adjusted. FIG. **4**A illustrates how the audio assembly **116** may translate up and down along the y-axis. FIG. **11** also shows translation along the y-axis. In addition to translation about the y-axis, the audio assembly **116** is also mounted for rotation about the y-axis. This feature is described below with respect to FIGS. **12** and **13**.

In addition to translation along and rotation about the y-axis, the audio assembly is also capable of rotation about the x-axis, orthogonal to the y-axis. FIG. **4**B illustrates rotation about the x-axis, which is into and out of the page of FIG. **4**B, perpendicular to a major planar surface taken for example through a circular cross-section of the ear pod **118**. The mechanisms for slidably and rotationally mounting the audio assembly to the headband are explained below.

In addition to translation along the y-axis, and rotation about the x- and y-axes, the microphone **114** may be mounted on a flexible boom **134** which may bend around the y-axis as well. This feature is shown in FIGS. **4**C and **9**A. This, the boom **134** may rotate about the y-axis to position a microphone assembly **150** nearer or farther from the mouth of a user. Additionally or alternatively, the boom may be flexible to bend the boom about the y-axis to position the microphone assembly **150** nearer or farther from the mount of a user.

The range of translation and rotation may vary in embodiments, but in one example, the audio assembly **116** may translate over a range of 40 mm along the y-axis, rotate over a range of 45° around the y-axis, and rotate over a range of 300° around the x-axis. It is understood that these ranges are provided by way of example only and the degree of translation and/or rotations may be of above or below these ranges in further embodiments.

FIGS. **5-11** illustrate the ear pod **118** and microphone **114** of the audio assembly **116** mounted to the headband **160**. The headband **160** may be formed of plastic or other flexible, shape-memory material. The headband **160** may include a foam temple pad **180** at an end of the headband **160** opposite to that including the ear pod **118**. The temple pad **180** is provided to increase comfort and support of the headband **160** on a user's head.

As noted, the audio assembly **116** is mounted to the headband **160** so as to translate along the headband, and to rotate about multiple axes of the headband. The mechanisms for affixing the audio assembly **116** to the headband **160** to move in this manner will now be explained with reference to FIG. **12**. FIG. **12** is an exploded perspective view of the audio assembly **116** of headset **102**. The headset includes an ear pod **118** having a foam ear pad **120** that lies against a user's ear. Interior of that is an ear pod front cover **122**. As explained below, screws **123** fit through holes in the ear pod front cover **122** and mate within an ear pod back cover **138** to secure and enclose the contents of the ear pod **118**.

Inside the ear pod front cover is a speaker assembly including a speaker **124** and an acoustic back-chamber **126** for providing a resonance cavity for the speaker. Inward of the speaker assembly is a hub **128** including a groove **129**. The ear pad **120** includes a lip (not labeled) which stretches around the outer diameter of the hub **128** and is held within groove **129** to maintain the ear pad **120** in the ear pod **118**.

Inward of the hub **128** is an o-ring **130** and a microphone boom **134**. The boom **134** supports a microphone assembly **150**, and in embodiments may be 4.5 inches long. It may be other lengths in further embodiments. The microphone boom **134** may have a circular base and may be coaxial with the ear pod **118**. As described above, the microphone boom **134** and microphone assembly **150** may rotate around the x-axis, relative to the ear pod. The o-ring **130** provides a degree of resistance and static friction to hold the boom **134** in place, absent an external biasing force, once the boom is rotated to the desired position.

The ear pod **118** further includes a rotation/translation assembly **135** including slide bases **132** and **136**, slide **142** and ratchet **145**. When the ear pod is assembled, the components **132**, **136**, **142** and **145** of the rotation/translation assembly **135** at least partially reside within a slider housing **146** including covers **140** and **144**. The components **132**, **136**, **142** and **145** support the ear pod **118** within the slider housing **146**. In particular, the slide **142** slides within a slot (not shown) in the slider cover **140** so that the ear pod **118** can translate along the y-axis of the slide cover **140**, and rotate within the slider cover **140** around the y-axis. The operation of these components is explained below.

Ear pod back cover **138** serves multiple functions. As noted above, the ear pod back cover receives screws **123** to secure and enclose the contents of the ear pod **118** together with the ear pod front cover **122**. Back cover **138** also includes a first surface having a boss **139**. The boss **139** has a diameter sized to rotatably support the boom **134** thereon. The back cover **138** further includes an opening within which cord **106** is received. Additionally, the back cover **138** includes a second surface, opposite the first surface, including a groove **141**. The slider housing **146** is received in the groove **141** as seen in FIGS. **12** and **13** in a way that allows the back cover **138** and the rest of the ear pod **118** to translate along the slider housing **146** and rotate about the slider housing **146**.

In particular, the slider housing **146** includes the slider cover **140** that mates with the logo cover **144**. When affixed together, a cavity (not shown) is defined within the covers **140**, **144**. Slide **142** of the rotation/translation assembly **135** rides within the cavity. A portion of slide **142** extends through a slot (not shown) formed in a surface of the slider cover **140**. The slot extends along the length of slider cover **140**, and the length of the slot in part defines the range over which the ear pod **118** may translate along the slider housing **146**.

A portion of the slide **142** extends through the slot, and snugly into an opening (not shown) in the groove **141** of back cover **138**. The slide **142** mounts to slide bases **132**, **136** via screws **137**. By this arrangement, the slide **142** connects the ear pod **118** to the slider housing **146** (with the housing **146** positioned with the groove **141** of the back cover **138**). The slide **142** is secured to and moves with the ear pod **118** as the ear pod translates along the slot in the slider cover **140**.

The slide **142** fits snuggly within the cavity in the slider housing **146**. The groove **141** may also fit snugly around the slider housing **146**. One or both of these engagements provide frictional resistance to translation of the slide **142** and ear pod **118** along the slider housing. Thus, once adjusted by a user to a desired position along the y-axis, the slide **142** and ear pod **118** stay in that position. Additionally, the slide **142** engages the ratchet **145**, which rides within a track (not shown) in the logo cover **144**. The track provides discrete stopping positions for the ratchet **145**, slide **142** and ear pod **118** along the slot in the slider cover **140**. These discrete stopping positions hold the ratchet **145**, slide **142** and ear pod **118** in position when unbiased, but may be overcome by the force of a user moving the ear pod **118** along the slider housing **146**.

FIGS. **11** and **14** illustrates the ear pod **118** in two different positions along the slider housing **146**. In embodiments, the ear pod **118** may move over a distance, d**1**, of 40 mm within the slot of the slider housing **146**. In an example, when fully extended in a lowermost position, the distance, d**2**, from a crown of the headband **160** to a centerline **182** of the ear pod **118** may be 155 mm. It is understood that these dimensions may each vary in further embodiments.

The slide **142** is further engaged in the slot in the slider cover **140** in a way that allows the slide **142** and ear pod **118** to rotate over a predefined range around the slider housing **146** and the y-axis. Again, the frictional fit of the slide **142** in the slider housing cavity, and/or the frictional fit of the slider housing **146** in the groove **141**, maintain the ear pod at a given angle around the y-axis once rotated and released by a user.

The slider housing **146** is affixed to a portion of the headband **160** by a tab **162** which fits in an opening **164** in the top of the slider housing **146**. FIG. **15** shows the ear pod **118** affixed to the slider housing **146** and headband **160** on the head of a user.

FIGS. **16-26** illustrate the volume controller **104**, with some figures including text regarding additional features of the volume controller **104**. As shown in FIGS. **17**, **18** and **21**, the volume controller may be mounted to a game controller **110** in such a way as to be easily actuated and operated by the left and/or right thumbs of a user. As shown for example in FIG. **19**, the volume controller may include a mute button **170**, a volume up button **172** and a volume down button **174**. The mute button **170** may be easily actuated with a thumb of the user's left hand, and the volume up and volume down buttons **172**, **174** may be easily actuated with a thumb of the user's right hand. The volume controller **104** may be mounted to and electrically coupled with the game controller **110** via a connector **178** (FIG. **22**).

The mute button **170** may mute the microphone **114** of the headset **102** when actuated. When actuated, an LED within the button **170** may illuminate a slash though a raised icon **184** of the microphone on button **170** to indicate that the microphone is muted (FIG. **20**). The volume up and volume down buttons **172**, **174** may be actuated to raise and lower the volume of sound to the ear pod **118**. FIG. **23** shows the volume controller **104** from different perspectives as indicated. As discussed above and shown partially in FIG. **24**, the volume controller may be affixed to the headset **102** via a cord **106**. It is conceivable that the headset **102** attach via any of various short range wireless protocols to the volume controller **104** and/or game controller **110** in further embodiments. Such short range wireless protocols may include the Bluetooth® wireless protocol and infrared communications.

FIG. **25** shows an alternative embodiment of a headset **102** where the ear pod **118** is supported for translation along the y-axis, rotation about the y-axis and rotation about the x-axis. The ear pod **118** may adjust along the y-axis for example 40 mm as described above. The ear pod **118** may rotate around the x-axis over a roll angle of for example +/−25°. The ear pod **118** may rotate around the y-axis over a yaw angle of for example +/−25°. This embodiment may include a yaw angle indicator **190** to indicate the yaw angle, and a roll angle indicator **192** to indicate the roll angle. A further indicator (not shown) may indicate the amount of translation along the y-axis. Although not shown, the embodiment of FIG. **25** may include a microphone **114** as described above.

As noted, the headset assembly **100** may be used with a computing system such as a gaming console. FIG. **26** illustrates an example embodiment of a computing system that may be used to implement hub computing system **12**. As shown in FIG. **26**, the multimedia console **500** has a central processing unit (CPU) **501** having a level 1 cache **502**, a level 2 cache **504**, and a flash ROM (Read Only Memory) **506**. The level 1 cache **502** and a level 2 cache **504** temporarily store data and hence reduce the number of memory access cycles, thereby improving processing speed and throughput. CPU **501** may be provided having more than one core, and thus, additional level 1 and level 2 caches **502** and **504**. The flash ROM **506** may store executable code that is loaded during an initial phase of a boot process when the multimedia console **500** is powered on.

A graphics processing unit (GPU) **508** and a video encoder/video codec (coder/decoder) **514** form a video processing pipeline for high speed and high resolution graphics processing. Data is carried from the graphics processing unit **508** to the video encoder/video codec **514** via a bus. The video processing pipeline outputs data to an A/V (audio/video) port **540** for transmission to a television or other display. A memory controller **510** is connected to the GPU **508** to facilitate processor access to various types of memory **512**, such as, but not limited to, a RAM (Random Access Memory).

The multimedia console **500** includes an I/O controller **520**, a system management controller **522**, an audio processing unit **523**, a network interface **524**, a first USB host controller **526**, a second USB controller **528** and a front panel I/O subassembly **530** that are preferably implemented on a module **518**. The USB controllers **526** and **528** serve as hosts for peripheral controllers **542**(**1**)-**542**(**2**), a wireless adapter **548**, and an external memory device **546** (e.g., flash memory, external CD/DVD ROM drive, removable media, etc.). The network interface **524** and/or wireless adapter **548** provide access to a network (e.g., the Internet, home network, etc.) and may be any of a wide variety of various wired or wireless adapter components including an Ethernet card, a modem, a Bluetooth module, a cable modem, and the like.

System memory **543** is provided to store application data that is loaded during the boot process. A media drive **544** is provided and may comprise a DVD/CD drive, Blu-Ray drive, hard disk drive, or other removable media drive, etc. The media drive **544** may be internal or external to the multimedia console **500**. Application data may be accessed via the media drive **544** for execution, playback, etc. by the multimedia console **500**. The media drive **544** is connected to the I/O controller **520** via a bus, such as a Serial ATA bus or other high speed connection (e.g., IEEE 1394).

The system management controller **522** provides a variety of service functions related to assuring availability of the multimedia console **500**. The audio processing unit **523** and an audio codec **532** form a corresponding audio processing pipeline with high fidelity and stereo processing. Audio data is carried between the audio processing unit **523** and the audio codec **532** via a communication link. The audio processing pipeline outputs data to the A/V port **540** for reproduction by an external audio user or device having audio capabilities.

The front panel I/O subassembly **530** supports the functionality of the power button **550** and the eject button **552**, as well as any LEDs (light emitting diodes) or other indicators exposed on the outer surface of the multimedia console **500**. A system power supply module **536** provides power to the components of the multimedia console **500**. A fan **538** cools the circuitry within the multimedia console **500**.

The CPU **501**, GPU **508**, memory controller **510**, and various other components within the multimedia console **500** are interconnected via one or more buses, including serial and parallel buses, a memory bus, a peripheral bus, and a processor or local bus using any of a variety of bus architectures. By way of example, such architectures can include a Peripheral Component Interconnects (PCI) bus, PCI-Express bus, etc.

When the multimedia console **500** is powered on, application data may be loaded from the system memory **543** into memory **512** and/or caches **502**, **504** and executed on the CPU **501**. The application may present a graphical user interface that provides a consistent user experience when navigating to different media types available on the multimedia console **500**. In operation, applications and/or other media contained within the media drive **544** may be launched or played from the media drive **544** to provide additional functionalities to the multimedia console **500**.

The multimedia console **500** may be operated as a standalone system by simply connecting the system to a television or other display. In this standalone mode, the multimedia console **500** allows one or more users to interact with the system, watch movies, or listen to music. However, with the integration of broadband connectivity made available through the network interface **524** or the wireless adapter **548**, the multimedia console **500** may further be operated as a participant in a larger network community. Additionally, multimedia console **500** can communicate with processing unit **4** via wireless adaptor **548**.

Optional input devices (e.g., controllers **542**(**1**) and **542**(**2**)) are shared by gaming applications and system applications. The input devices are not reserved resources, but are to be switched between system applications and the gaming application such that each will have a focus of the device. The application manager preferably controls the switching of input stream, without knowing the gaming application's knowledge and a driver maintains state information regarding focus switches. Capture device **20** may define additional input devices for the console **500** via USB controller **526** or other interface. In other embodiments, hub computing system **12** can be implemented using other hardware architectures. No one hardware architecture is required.

Although the subject matter has been described in language specific to structural features and/or methodological acts, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to the specific features or acts described above. Rather, the specific features and acts described above are disclosed as example forms of implementing the claims. It is intended that the scope of the invention be defined by the claims appended hereto.

We claim:

1. An audio headset, comprising:

a headband having a housing defining a first axis along a length of the housing;

an ear pod having a portion affixed within the housing of the headband, the ear pod mounted for translation along an exterior of the housing, the ear pod including a speaker, a second axis being defined orthogonal to the first axis and substantially perpendicular to a major planar surface of the ear pod; and

a microphone affixed to the headband at the ear pod, wherein the microphone is mounted for rotation about the second axis.

2. The headset of claim **1**, the microphone mounted on a boom, wherein the boom is mounted to the headset coaxially with the ear pod.

3. The headset of claim **2**, wherein the microphone is further mounted for rotation about the first axis.

4. The headset of claim **3**, wherein the boom is capable of bending about the first axis.

5. The headset of claim **1**, further comprising a wired connection to one of a controller and a computing device.

6. The headset of claim **1**, further comprising a wireless connection to one of a controller and a computing device.

7. The headset of claim **1**, wherein the headset is connected to a game controller via a volume controller, the volume controller controlling a volume to the ear pod and a mute function for muting the microphone.

8. An audio headset, comprising:

a headband having a portion defining a first axis along a length of the portion;

a housing affixed at the portion of the headband, the housing having a cover with an elongate slot formed along the first axis;

a slide mounted within the housing;

a slide base affixed to the slide;

an ear pod including a speaker, the ear pod affixed to the slide base, the slide, slide base and ear pod capable of translating together along the first axis along the length of the slot, and the slide, slide base and ear pod capable of rotating together around the first axis within the slot, a second axis being defined orthogonal to the first axis and substantially perpendicular to a major planar surface of the ear pod; and a microphone affixed to the ear pod, wherein the microphone is mounted for rotation relative to the ear pod about the second axis.

9. The headset of claim **8**, wherein the microphone is further mounted for rotation about the first axis.

10. The headset of claim **8**, wherein the microphone is affixed to the ear pod via a boom.

11. The headset of claim **10**, wherein the boom is capable of bending about the first axis.

12. The headset of claim **10**, wherein the boom includes a circular base affixing the boom and microphone to the ear pod.

13. The headset of claim **12**, further comprising an o-ring between the circular base of the boom and the ear pod to hold the microphone and boom in a fixed position absent an external biasing force.

14. The headset of claim **8**, wherein the speaker is housed within the ear pod between an ear pad for resting against an ear of a user and an ear pod cover.

15. The headset of claim **14**, wherein the microphone is affixed to the ear pod via a boom, the ear pod cover includes a boss on a first side for rotatably supporting a circular base of the boom.

16. The headset of claim **15**, wherein the ear pod cover further includes a groove on a second side of the ear pod cover opposite the first side, the housing seated within the groove.

17. A headset assembly, comprising:

a headset, comprising:

a headband having a portion defining a first axis along a length of the portion, the portion including a housing,

a slide mounted to translate entirely within the housing,

an ear pod affixed to the slide in the housing at the portion of the headband, the ear pod including a speaker and mounted for translation with the slide along the axis and rotation on the slide about the axis, a second axis being defined orthogonal to the first axis and substantially perpendicular to a major planar surface of the ear pod, and

a microphone affixed to the headband at the ear pod, wherein the microphone is mounted for rotation about the first and second axes; and

a volume controller for controlling a volume to the ear pod and a mute function for muting the microphone.

18. The headset assembly of claim **17**, wherein the volume controller is connected to the headset by a cord.

19. The headset assembly of claim **17**, wherein the volume controller communicates with the headset by a wireless communications interface.

20. The headset assembly of claim **17**, wherein the volume controller plugs into a game controller, the game controller transferring audio to and from the headset.

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